

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in this application.

1. (Currently amended) A method of treating a subject with a cancer, the method comprising administering to the subject ~~an inhibitor of indoleamine-2,3-dioxygenase in an amount effect to reverse indoleamine-2,3-dioxygenase-mediated immunosuppression~~ an effective amount of a pharmaceutical composition consisting essentially of 1-methyl-D-tryptophan, and administering at least one additional therapeutic agent, wherein the administration of the ~~inhibitor of indoleamine-2,3-dioxygenase~~ pharmaceutical composition and the at least one additional therapeutic agent demonstrate therapeutic synergy, and wherein the at least one additional therapeutic agent is a cytotoxic antineoplastic chemotherapy agent, ~~and wherein the inhibitor of indoleamine-2,3-dioxygenase is selected from the group consisting of 1-methyl-tryptophan, β -(3-benzofuranyl)-alanine, β -(3-benzo(b)thienyl)-alanine, and 6-nitro-D-tryptophan.~~
2. (Currently amended) The method of claim 1, wherein the amount of 1-methyl-D-tryptophan administered is effective to reverse indoleamine-2,3-dioxygenase-mediated immunosuppression ~~is mediated~~ by an antigen presenting cell (APC).
3. (Cancelled)

4. (Previously presented) The method of claim 1, wherein the antineoplastic chemotherapeutic agent is selected from the group consisting of cyclophosphamide, methotrexate, fluorouracil, doxorubicin, vincristine, ifosfamide, cisplatin, gemcytabine, busulfan, ara-C, and combinations thereof.
5. (Withdrawn) A method of treating a subject with a cancer, the method comprising administering to the subject an inhibitor of indoleamine-2,3-dioxygenase in an amount effective to reverse indoleamine-2,3-dioxygenase-mediated immunosuppression, and administering at least one additional therapeutic agent, wherein the administration of the inhibitor of indoleamine-2,3-dioxygenase and the at least one additional therapeutic agent demonstrate therapeutic synergy, wherein at least one additional therapeutic agent is radiation therapy, and wherein the inhibitor of indoleamine-2,3-dioxygenase is selected from the group consisting of 1-methyl-tryptophan, β -(3-benzofuranyl)-alanine, β -(3-benzo(b)thienyl)-alanine, and 6-nitro-D-tryptophan.
6. (Withdrawn) The method of claim 5 wherein the radiation therapy is localized radiation therapy delivered to the tumor.
7. (Withdrawn) The method of claim 5 wherein the radiation therapy is total body irradiation.
8. (Cancelled)
9. (Cancelled)

10. (Withdrawn) The method of claim 5 wherein the inhibitor of indoleamine-2,3-dioxygenase is 1-methyl-tryptophan.

11. (Cancelled)

12. (Withdrawn) The method of claim 5 wherein the inhibitor of indoleamine-2,3-dioxygenase is selected from the group consisting of the D isomer of 1-methyl-tryptophan, the D isomer of β -(3-benzofuranyl)-alanine, the D isomer of β -(3-benzo(b)thienyl)-alanine, and the D isomer of 6-nitro-D-tryptophan.

13. (Currently amended) The method of claim 1, wherein the cancer is selected from the group consisting of melanoma, colon cancer, pancreatic cancer, breast cancer, prostate cancer, lung cancer, leukemia, brain tumors, lymphoma, sarcoma, ovarian cancer, and Kaposi's sarcoma, Hodgkin's Disease, multiple myeloma, neuroblastoma, stomach cancer, cervical cancer, endometrial cancer, testicular cancer, thyroid cancer, esophageal cancer, genitourinary tract cancer, premalignant skin lesions, and adrenal cortical cancer.

14-29. (Cancelled)

30. (Previously presented) The method of claim 1 further comprising administering a cytokine.

31. (Original) The method of claim 30 wherein the cytokine is granulocyte-macrophage colony stimulating factor (GM-CSF) or flt3-ligand.

32. (Currently amended) A method of augmenting the rejection of tumor cells in a subject, the method comprising administering ~~an inhibitor of indoleamine-2,3-dioxygenase selected from the group consisting of 1-methyl-tryptophan, β -(3-benzofuranyl)-alanine, β -(3-benzo(b)thienyl)-alanine, and 6-nitro-D-tryptophan~~ a pharmaceutical composition consisting essentially of 1-methyl-D-tryptophan and administering at least one cytotoxic antineoplastic chemotherapeutic agent, wherein the rejection of tumor cells obtained by administering both ~~the inhibitor of indoleamine-2,3-dioxygenase~~ the pharmaceutical composition and the cytotoxic antineoplastic chemotherapeutic agent is greater than that obtained by administering either ~~the inhibitor of indoleamine-2,3-dioxygenase~~ pharmaceutical composition or the cytotoxic antineoplastic chemotherapeutic agent alone.

33. (Currently amended) A method of treating cancer, the method comprising administering ~~an inhibitor of indoleamine-2,3-dioxygenase selected from the group consisting of 1-methyl-tryptophan, β -(3-benzofuranyl)-alanine, β -(3-benzo(b)thienyl)-alanine, and 6-nitro-D-tryptophan~~ a pharmaceutical composition consisting essentially of 1-methyl-D-tryptophan and administering at least one cytotoxic antineoplastic chemotherapeutic agent, wherein the cancer survival rate observed by administering both ~~the inhibitor of indoleamine-2,3-dioxygenase~~ the pharmaceutical composition and the cytotoxic antineoplastic chemotherapeutic agent is greater than the cancer survival rate observed by administering either ~~the inhibitor of indoleamine-2,3-dioxygenase~~ the pharmaceutical composition or the cytotoxic antineoplastic chemotherapeutic agent alone.

34. (Currently amended) A method of reducing tumor size or slowing tumor growth in a subject, the method comprising administering ~~an inhibitor of~~

~~indoleamine-2,3-dioxygenase selected from the group consisting of 1-methyl-tryptophan, β -(3-benzofuranyl)-alanine, β -(3-benzo(b)thienyl)-alanine, and 6-nitro-D-tryptophan~~ a pharmaceutical composition consisting essentially of 1-methyl-D-tryptophan and administering at least one cytotoxic antineoplastic chemotherapeutic agent, wherein the tumor size or tumor growth observed with the administration of both ~~the inhibitor of indoleamine-2,3-dioxygenase~~ pharmaceutical composition and the cytotoxic antineoplastic chemotherapeutic agent is less than the tumor size or tumor growth observed with the administration of either ~~the inhibitor of indoleamine-2,3-dioxygenase~~ the pharmaceutical composition or the cytotoxic antineoplastic chemotherapeutic agent alone.

35. (Withdrawn) A method augmenting rejection of tumor cells in a subject, the method comprising administering an inhibitor of indoleamine-2,3-dioxygenase selected from the group consisting of 1-methyl-tryptophan, β -(3-benzofuranyl)-alanine, β -(3-benzo(b)thienyl)-alanine, and 6-nitro-D-tryptophan and administering radiation therapy, wherein the rejection of tumor cells wherein the rejection of tumor cells obtained by administering both the inhibitor of indoleamine-2,3-dioxygenase and the radiation therapy is greater than that obtained by administering either the inhibitor of indoleamine-2,3-dioxygenase or the radiation therapy alone.

36. (Withdrawn) A method of treating cancer, the method comprising administering an inhibitor of indoleamine-2,3-dioxygenase selected from the group consisting of 1-methyl-tryptophan, β -(3-benzofuranyl)-alanine, β -(3-benzo(b)thienyl)-alanine, and 6-nitro-D-tryptophan and administering radiation therapy, wherein the cancer survival rate observed by administering both the inhibitor of indoleamine-2,3-dioxygenase and radiation therapy is greater than the cancer survival rate observed

by administering either the inhibitor of indoleamine-2,3-dioxygenase or radiation therapy alone.

37. (Withdrawn) A method of reducing tumor size or tumor growth in a subject, the method comprising administering an inhibitor of indoleamine-2,3-dioxygenase selected from the group consisting of 1-methyl-tryptophan, β -(3-benzofuranyl)-alanine, β -(3-benzo(b)thienyl)-alanine, and 6-nitro-D-tryptophan and administering radiation therapy, wherein the tumor size or tumor growth observed with the administration of both the inhibitor of indoleamine-2,3-dioxygenase and radiation therapy is less than the tumor size or tumor growth observed with the administration of either the inhibitor of indoleamine-2,3-dioxygenase or radiation therapy alone.

38. (Withdrawn) The method of claim 5, wherein the indoleamine-2,3-dioxygenase-mediated immunosuppression is mediated by an antigen presenting cell (APC).

39. (Withdrawn) The method of claim 5, wherein the cancer is selected from the group consisting of melanoma, colon cancer, pancreatic cancer, breast cancer, prostate cancer, lung cancer, leukemia, brain tumors, lymphoma, sarcoma, ovarian cancer, and Kaposi's sarcoma.

40-43. (Cancelled)

44. (New) A method of treating a subject with cancer, the method comprising administering to the subject a pharmaceutical composition consisting essentially of 1-methyl-D-tryptophan.

45. (New) The method of claim 44, further comprising administering to the subject at least one cytotoxic antineoplastic chemotherapeutic agent, wherein the administering of 1-methyl-D-tryptophan and the agent demonstrates therapeutic synergy.

46. (New) A method of treating a subject with cancer, the method comprising administering to the subject a pharmaceutical composition comprising 1-methyl-D-tryptophan, but not 1-methyl-(D,L)-tryptophan.

47. (New) A method of treating a subject with cancer, the method comprising administering to the subject a pharmaceutical composition comprising 1-methyl-D-tryptophan, but not 1-methyl-L-tryptophan.

48. (New) The method of claim 46 or 47, further comprising administering at least one cytotoxic antineoplastic chemotherapeutic agent, wherein the administering of the composition and the agent demonstrates therapeutic synergy.

49. (New) A method of reducing tumor size or slowing tumor growth in a subject, the method comprising administering to the subject a pharmaceutical composition consisting essentially of 1-methyl-D-tryptophan.

50. (New) The method of claim 49, further comprising administering to the subject at least one cytotoxic antineoplastic chemotherapeutic agent, wherein the tumor size or tumor growth observed after administration of the pharmaceutical composition and at least one cytotoxic antineoplastic chemotherapeutic agent is lower than the tumor size or tumor growth observed after administration of either the

pharmaceutical composition alone or the cytotoxic antineoplastic chemotherapeutic agent alone.

51. (New) A method of reducing tumor size or slowing tumor growth in a subject, the method comprising administering to the subject a pharmaceutical composition comprising 1-methyl-D-tryptophan, but not 1-methyl-(D,L)-tryptophan.

52. (New) A method of reducing tumor size or slowing tumor growth in a subject, the method comprising administering to the subject a pharmaceutical composition comprising 1-methyl-D-tryptophan, but not 1-methyl-L-tryptophan.

53. (New) The method of claim 51 or 52, further comprising administering at least one cytotoxic antineoplastic chemotherapeutic agent, wherein the tumor size or tumor growth observed after administration of the pharmaceutical composition and at least one cytotoxic antineoplastic chemotherapeutic agent is lower than the tumor size or tumor growth observed after administration of either the pharmaceutical composition alone, or a composition comprising the cytotoxic chemotherapeutic agent alone.

54. (New) The method of claim 45 or 50, wherein the antineoplastic chemotherapeutic agent is selected from the group consisting of: cyclophosphamide, methotrexate, fluorouracil, doxorubicin, vincristine, ifosfamide, cisplatin, gemcytabine, busulfan, and ara-C.

55. (New) The method of claim 44, 46 or 47, wherein the cancer is selected from the group consisting of melanoma, colon cancer, pancreatic cancer, breast cancer,

prostate cancer, lung cancer, leukemia, brain tumors, lymphoma, sarcoma, ovarian cancer, Kaposi's sarcoma, Hodgkin's Disease, multiple myeloma, neuroblastoma, stomach cancer, cervical cancer, endometrial cancer, testicular cancer, thyroid cancer, esophageal cancer, genitourinary tract cancer, premalignant skin lesions, and adrenal cortical cancer.

56. (New) The method of claim 49, 51 or 52 wherein the tumor is a result of a cancer selected from the group consisting of melanoma, colon cancer, pancreatic cancer, breast cancer, prostate cancer, lung cancer, leukemia, brain tumors, lymphoma, sarcoma, ovarian cancer, Kaposi's sarcoma, Hodgkin's Disease, multiple myeloma, neuroblastoma, stomach cancer, cervical cancer, endometrial cancer, testicular cancer, thyroid cancer, esophageal cancer, genitourinary tract cancer, premalignant skin lesions, and adrenal cortical cancer.

57. (New) The method of claim 44, 46, 47, 49, 51, or 52, further comprising administering a cytokine.

58. (New) The method of claim 57, wherein the cytokine is granulocyte-macrophage colony stimulating factor (GM-CSF) or its flt3-ligand.

59. (New) The method of claim 44, 46, 47, 49, 51, or 52, wherein the composition further comprises a pharmaceutically acceptable carrier.

60. (New) The method of claim 44, 46, 47, 49, 51, or 52, wherein the composition is formulated for oral, rectal, nasal, topical, transdermal, aerosol, buccal, sublingual, vaginal, parenteral, subcutaneous, intramuscular, intravenous, intradermal, enteral,

intraperitoneal, or intravesical administration.

61. (New) The method of claim 60, wherein the composition is formulated for oral delivery.

62. (New) The method of claim 61, wherein the composition is formulated in a tablet or capsule.

63. (New) The method of claim 60, wherein the composition is formulated for a controlled or sustained release.

64. (New) The method of claim 44, 46, 47, 49, 51, or 52, wherein the composition is formulated as an ointment, gel, solution, patch, or implant.

65. (New) The method of claim 44, 46, 47, 49, 51, or 52, wherein the composition further comprises one or more diluents, buffers, binders, disintegrants, surface active agents, thickeners, lubricants, or preservatives.

66. (New) The method of claim 44, 46, 47, 49, 51, or 52 wherein the administering is carried out in a number of doses at intervals of time.

67. (New) The method of claim 44, 46, 47, 49, 51, or 52, wherein the composition is administered before, during, or after surgical resection, radiation therapy, chemotherapy, hormone therapy, anti-tumor vaccination, antibody-based therapy, cytokine-based therapy, whole body irradiation, bone marrow transplantation, and peripheral stem cell transplantation.

stem cell transplantation.

68. (New) The method of claim 48, wherein the antineoplastic chemotherapeutic agent is selected from the group consisting of: cyclophosphamide, methotrexate, fluorouracil, doxorubicin, vincristine, ifosfamide, cisplatin, gemcytabine, busulfan, and ara-C.

69. (New) The method of claim 53, wherein the antineoplastic chemotherapeutic agent is selected from the group consisting of: cyclophosphamide, methotrexate, fluorouracil, doxorubicin, vincristine, ifosfamide, cisplatin, gemcytabine, busulfan, and ara-C.